

REMARKS

Applicants hereby cancel claims 1-13 and 21-34 and add new claims 42-49. Claims 14-20 were rejected for anticipation over Hasegawa and obviousness over Hasegawa and Baldwin. Claims 35-41 stand rejected for obviousness over Hasegawa and Baldwin.

Applicants respectfully traverse the rejections and urge allowance of the present application.

Referring initially to claim 14, the interrogator of the backscatter communication system comprises, in part, a transmitter configured to output a local continuous wave signal and a radio frequency continuous wave signal, and a receiver configured to receive the local continuous wave signal and a modulated radio frequency continuous wave signal, the receiver including a phase adjuster, a phase shifter and a coupler. Claim 14 recites patentable subject matter.

On page 3 of the Office Action, it is stated that the difference between the invention of claims 14-20 and Hasegawa is the use of the phase shifter in an interrogation system. Applicants submit additional distinctions exist. The transmitter of claim 14 is configured to output a local continuous wave signal and a radio frequency continuous wave signal, the receiver is configured to receive a local continuous wave signal and a modulated radio frequency continuous wave signal, and the coupler is configured to combine the adjusted continuous wave signal and the modulated radio frequency continuous wave signal. Applicants have electronically searched Hasegawa and have failed to uncover any continuous wave signal teachings let alone a transmitter outputting and a receiver receiving local continuous wave signals and radio frequency continuous wave signals or a coupler

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combining an adjusted continuous wave signal and a modulated radio frequency continuous wave signal as recited in claim 14. Claim 14 recites numerous limitations not shown or suggested in the prior art of record and the anticipation rejection of claims 14-20 is improper for at least this reason. Applicants respectfully request withdrawal of the anticipation rejection of claim 14.

On page 3 of the Office Action, it is stated that Baldwin teaches the use of a phase shifter and a backscatter interrogation system permitting the use of phase modulation in a transponder interrogation system. It is stated that it would have been obvious to use the phase shifter of Hasegawa in the interrogator of Baldwin to permit the use of phase modulation in the interrogation system. Applicants disagree with the obviousness rejection of claim 14.

Referring to MPEP §2143.01 (8th ed.), there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine reference teachings. The mere fact that references *can* be combined or modified does not render the resultant combination obvious *unless the prior art also suggests the desirability of the combination*. MPEP §2143.01 *citing In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Obviousness cannot be established by a combination of references unless there is some motivation in the art to support the combination. See *ACH Hospital Systems, Inc. v. Montifiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984) ("Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting

the combination."). The motivation for forming the combination must be something other than hindsight reconstruction based on using Applicant's invention as a road map for such a combination. See, e.g., *Interconnect Planning Corp. v. Feil*, 227 USPQ 543, 551 (Fed. Cir. 1985); *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990) (explaining that hindsight reconstruction is an improper basis for rejection of a claim).

It is stated on page 3 of the Action that Baldwin teaches the use of a phase shifter in a backscatter interrogation system which permits the use of phase modulation in a transponder interrogation system. Therebelow, it is stated that the combination with Hasegawa is obvious to permit the use of phase modulation in the interrogation system. As clearly recited in the previous paragraph on page 3 of the Action, Baldwin already provides phase modulation in a transponder interrogation system. Accordingly, one of ordinary skill in the art would not look for further teachings regarding phase modulation in Hasegawa to provide phase modulation in a interrogation system inasmuch as Baldwin already provides such teachings and enables the use of phase modulation in a transponder interrogation system. One of skill in the art would not look for additional phase shifter teachings of Hasegawa inasmuch as Baldwin provides phase shifting operations as identified in the Office Action.

In determining the propriety of the patent office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination or other modification. MPEP §2143.01 citing to *In re Linter* 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Regarding

the §103 rejection of claim 14, the motivational rationale provided for the combination is redundant and lacking, and therefore, the obviousness rejection is improper. A proper motivational rationale for a combination of art provides that impetus necessary to cause one skilled in the art to combine the teachings of the references to make the proposed modification ("Preferably, the Examiner's explanation should be such that it provides that impetus necessary to cause one skilled in the art to combine the teachings of the references to make the proposed modification". *Ex Parte Levengood*, 28 USPQ2d, 1300, 1301, Footnote 2, (Bd. Pat. App. and Inter. 1993) (citations omitted)).

Baldwin already discloses phase modulation. Accordingly, why would one skilled in the art look to Hasegawa to modify the invention of Baldwin when Baldwin already provides for the teachings for which Hasegawa is allegedly presented. Such a redundancy clearly demonstrates there is **no impetus** for one skilled in the art to modify the Baldwin invention with the teachings of Hasegawa, and therefore, the motivational rationale for the combination does not exist. Since the motivational rationale is improper and lacking, the obviousness rejection fails and should be withdrawn. Applicants respectfully request allowance of claim 14 in the next Office Action.

In addition, Applicants note that the phase shifters of Baldwin provide fixed phase shifting operations of 90 degrees and Hasegawa is arranged as a variable, infinite phase shifter to provide varied phase shifts with reference to col. 1, lines 42-45 to provide variance of a notch frequency of fading. One of ordinary skill in the art would not look to modify the fixed phase shift device teachings of Baldwin with the infinite or variable phase shifter of Hasegawa. Baldwin uses fixed phase shifts of 90 degrees for specific operations

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set forth in column 4, lines 57-61 to assure that the signals entering the combiner 54 are 90 degrees or 270 degrees out of phase and never 180 degrees out of phase. It is further stated in column 4, lines 28-34 of Baldwin, that a net 90 degrees phase difference is suitable. Accordingly, Baldwin is concerned with specific signals having specific phase differences and one would not be motivated to combine an infinite or variable phase shifter of Hasegawa for use in Baldwin.

Given the specificity of Baldwin regarding phase shifting operations, provision of the variable phase shifter of Hasegawa in Baldwin would destroy the purpose of Baldwin. If the proposed modification would render the prior art invention Baldwin being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. MPEP 2143.01, citing to *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Applicants submit the obviousness rejection of claim 14 is improper for at least this reason.

Additionally, the obviousness rejection based on the combination of Hasegawa and Baldwin must fail because the proposed modification or combination of the prior art changes the principle of operation of the prior art invention being modified and the teachings of the references are not sufficient to render the claims *prima facie* obvious. MPEP 2143.01(8th ed.) citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

The Office Action fails to identify any teachings that provide any details of how circuitry of Hasegawa and Baldwin would be modified to accommodate the proposed modification. Significant modification of Baldwin and Hasegawa would be required to incorporate the variable phase shifting of Hasegawa with the operations of Baldwin. The

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record is devoid of any evidence or teachings that the references could be combined or that one would be motivated to do so. The obviousness rejection of claim 14 is improper for at least the above numerous reasons.

The claims which depend from independent claim 14 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Independent claim 35 recites a method of operating a coherent interrogator of a backscatter communication system comprising, in part, outputting a radio frequency continuous wave signal, providing a local continuous wave signal, receiving a modulated continuous wave signal, adjusting the phase of the local continuous wave signal to provide an adjusted continuous wave signal, and combining the adjusted continuous wave signal and the modulated continuous wave signal. Claim 35 recites patentable subject matter over the prior art of record.

rebut There is absolutely no motivation to combine the teachings of Hasegawa with the arrangement of Baldwin. Baldwin provides fixed phase modulation and one would not look to the inapposite teachings of Hasegawa concerning variable phase shifting. In addition, one would not look to Hasegawa for additional teachings permitting the use of phase modulation in an interrogation system as set forth on page 4 of the Action inasmuch as Baldwin already provides such phase modulation in the system. In addition, there is absolutely no evidence of record or details provided of how infinite variable phase shifting operations of Hasegawa would be combined with the specifically designed system of Baldwin concerning fixed phase shifting and provision of signals that are either 90 degrees

or 270 degrees out of phase and never 180 degrees out of phase. The obviousness rejection of claim 35 is improper for at least the above mentioned reasons and Applicants respectfully request allowance of claim 35 in the next Action.

The claims which depend from independent claim 35 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Applicants hereby add new claims 42-49. Support for such new claims is provided at least in the originally filed specification at page 26, line 3 spanning to page 27, line 20 and Fig. 7.

Applicants submit a Supplemental Information Disclosure Statement herewith.

Applicants have amended the Specification.

Applicants respectfully request allowance of all pending claims.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: 7/8/02

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Inventor David K. Ovard et al.
Assignee Micron Technology, Inc.
Group Art Unit 2745
Examiner B. Zimmerman
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Title: "Phase Shifters, Interrogators, Methods of Shifting a Phase Angle of a Signal, and
Methods of Operating an Interrogator"

**VERSION WITH MARKINGS TO SHOW CHANGES MADE ACCOMPANYING
RESPONSE TO APRIL 8, 2002 OFFICE ACTION**

In the Specification

The replacement specification paragraphs incorporate the following amendments.

Underlines indicate insertions and ~~strikeouts~~ indicate deletions.

The paragraph beginning at line 3 on page 2 has been amended as follows:

-- Another type of wireless electronic identification system is an active wireless electronic identification system. Attention is directed towards commonly assigned U.S. Patent Application Serial No. 08/705,043, filed August 29, 1996, now U.S. Patent No. 6,130,602, which issued on October 10, 2000, and incorporated herein by reference, which describes such active systems in detail. One such system is sold by Micron Communications Inc., 3176 S. Denver Way, Boise, Idaho 83705 under the trademark Microstamp Engine (TM).--

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